CADI SmartSense

SmartTAG

STG-821W User Manual

Contents

Regulatory Information

For customers in U.S.A and Canada

Federal Communications Commission (FCC) Statement 15.21
You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
1) This device may not cause interference and
2) This device must accept any interference, including interference that may cause undesired operation of the device.

FCC RF Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

For customers in Europe

This equipment has been tested and found to comply with the limits set out in the RED Directive.

Where you see this symbol on any of our electrical products or packaging in Europe, it means that at end of life the product or battery must be disposed of in accordance with any applicable laws or requirements for the separate disposal of electrical equipment or batteries.

RED Declaration of Conformity

We,

Company	: **CADI SCIENTIFIC PTE. LTD.**
Address	: 31 Ubi Road 1, #07-01A Aztech Building, Singapore 408694
Phone Number	: +65 62762676
Fax Number	: +65 62766216

Declare under our sole responsibility that the product:

Product	: SmartTAG
Brand Name	: Cadi
Type or Model	: STG-821W
Hardware Version	: v1.2
Software Version	: v1.0
Others	: The product has a 3.35dBi internal chip antenna for 2.4GHz WiFi and reader coil for 125kHz inductive coupling. The hardware and software of this product is not end-user changeable or modifiable.

is in conformity with the following standards and/or technical specifications (References to standards/specifications

must be listed with their identification number and version and, where applicable, date of issue)

Health & Safety (Article 3.1(a))	:	EN 60950-1:2006/A2:2013
		EN 62479:2010
EMC (Article 3.1(b))	:	ETSI EN 301 489-1 V2.1.1:2017
		ETSI EN 301 489-3 V2.1.1:2017
		ETSI EN 301 489-17 V3.1.1:2017
Radio Spectrum (Article 3.2)	:	ETSI EN 300 328 V2.1.1:2016
		ETSI EN 300 330 V2.1.1:2017
Other (Article 3.3)	:	NA

We hereby declare that the above-named product is in conformity to all the essential requirements of Directive 2014/53/EU.

The technical documentation relevant to the above equipment will be held at:
Company: CADI SCIENTIFIC PTE. LTD.
Address: 31 Ubi Road 1, #07-01A Aztech Building, Singapore 408694

HCNg

Date: 06/06/2018

Name: Ng Hon Cheong
Job title: CTO

Place of issue: Singapore
(e.g. City/town, and Country)

Note (not forming part of this declaration): The information required to identify all applicable Union acts should be available in a single EU declaration of conformity. In order to reduce the administrative burden on economic operators, that single EU declaration of conformity may be a dossier made up of relevant individual declarations of conformity. Please see Recital 42 and Article 18 of the RED.

PRECAUTIONS

- Keep batteries away from children.
- Do not swallow batteries.
- Do not throw batteries into water.
- Do not throw batteries into fire.
- Do not short-circuit batteries. Battery must be fit into tag in correct orientation.
- Do not replace battery with incorrect type. Incorrect type of battery replacement may cause risk of exposure.
- Battery should be disposed according to the instructions

Product Information

- Product model   : STG-821W
- Product name   : SmartTAG

- Manufacturing site   : 31 Ubi Road 1, #07-01A Aztech Building, Singapore 408694

Version Information

- This version is subject to change or upgrade without notice
- Version   : A01
- Issue date   : 25 May 2017

Declaration

Cadi Scientific Pte Ltd reserves the right to change the product described in this Operator's Manual. All information contained in this Operator's Manual is subject to change without notice.

1. Introduction

The STG-821W is a battery rechargeable personnel tag. The STG-821W transmits LF signal periodically to establish close range communication between tags. Leveraging on this unique tag-to-tag communication technology, the STG-821W can also be configured for contact tracing applications to help organizations accurately track, trace and monitor personnel, including staff, visitors and patients, coming into proximity contact with each other.

When the tags pass by a location LF exciter, it will receive the location ID transmitted from the exciter. When there is a change of status or location, the tag will transmit RF signal to RF receiver to update status and location.

The 2 buttons on the tag allow for several configuration possibilities ie. staff assistance, panic / duress alert, alert acknowledgment etc.

2. Specifications

S/N	Feature	Description
1	**Power**	Rechargeable Lithium Ion Polymer Battery 3.7V 400mA
2	**Dimension**	86mm x 55mm x 8.8mm
	Weight	39g
3	**Operating temperature**	0°C - 55°C (during normal operation) 0ºC – 39ºC (during charging)
4	**Storage & Transport temperature range**	-10°C - 55°C
5	**RF (Transmit) frequency**	2.4 GHz
	Transmission Rate	Every 30 minutes or Immediate upon change in location
6	**LF (Transmit and Receive)**	125 kHz
	Transmission Rate	Every 2 minutes
7	**Interface**	2 x buttons
		2 x Bi-Colour LEDs (Red and Green)
		1 x Buzzer.
8	**Compliance**	TBD

3. Battery charging instruction

1. The tag is powered by a rechargeable Li-ion polymer battery. Use only locally approved chargers to charge the tag.
2. A fully discharged battery recharges fully in approximately 2 hours.
3. Attach the magnetic connector of the charging cable to the magnetic charging pads on the reverse side of the tag.
4. Connect the USB end of the charging cable to any locally approved 5V USB charger.
5. When charging is in progress, the charging LED will show RED.
6. When charging is completed, the charging LED will show GREEN.
7. When charging is completed, disconnect the charging cable from the charging pads. And remove the charging cable from the 5V USB charger.

Charging cable with magnetic connector

Magnetic charging pads on reverse side of tag

Battery charging status indicator
- **GREEN** means fully charged.
- **RED** means charging

Safety Precaution
The internal battery is not user serviceable or replaceable. Do not open the casing to access the internal battery.
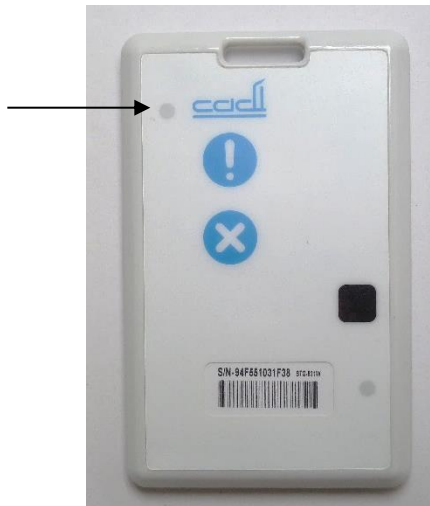
4. Tag Cleaning Instructions

1. Disinfect the tags by wiping with an alcohol sanitizer.

2. Dry the tag with a clean cloth.

    Caution: The tag cannot withstand autoclave sterilization

5. Battery Status Indicator

Blink RED LED at every 10 seconds interval when battery strength is low

When battery level is low

1. The tag will continuously blink RED LED at every 10 seconds interval if its battery level is low.
2. Once the magnetic charger-USB connector is removed from the tag, the tag will blink RED LED with few beeping sound if battery strength detected is weak else it will blink GREEN LED with single beep only if it is normal.
3. If the battery level is too low, the tag might keep restarting and output beeping sound.

6. Buttons
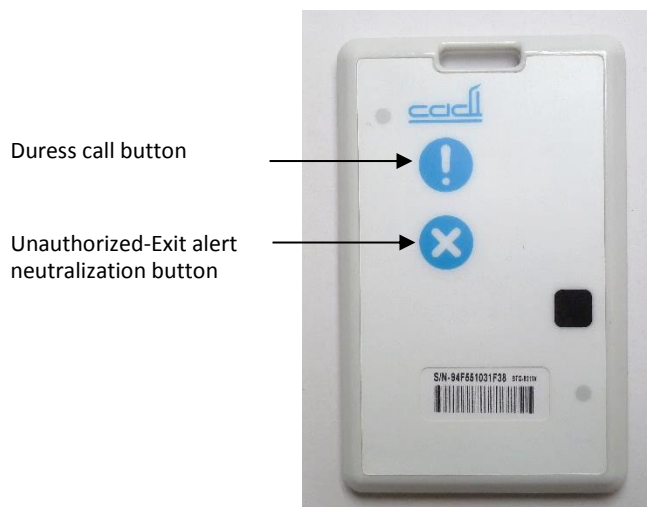
1. When duress call button is pressed and held down for 3 seconds, a duress signal will be transmitted.
2. When the unauthorized-exit alert neutralization button is pressed-and-released, an unauthorized-exit neutralization signal will be transmitted.